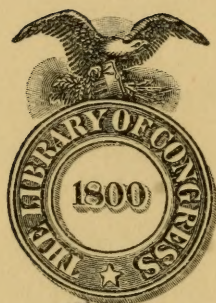


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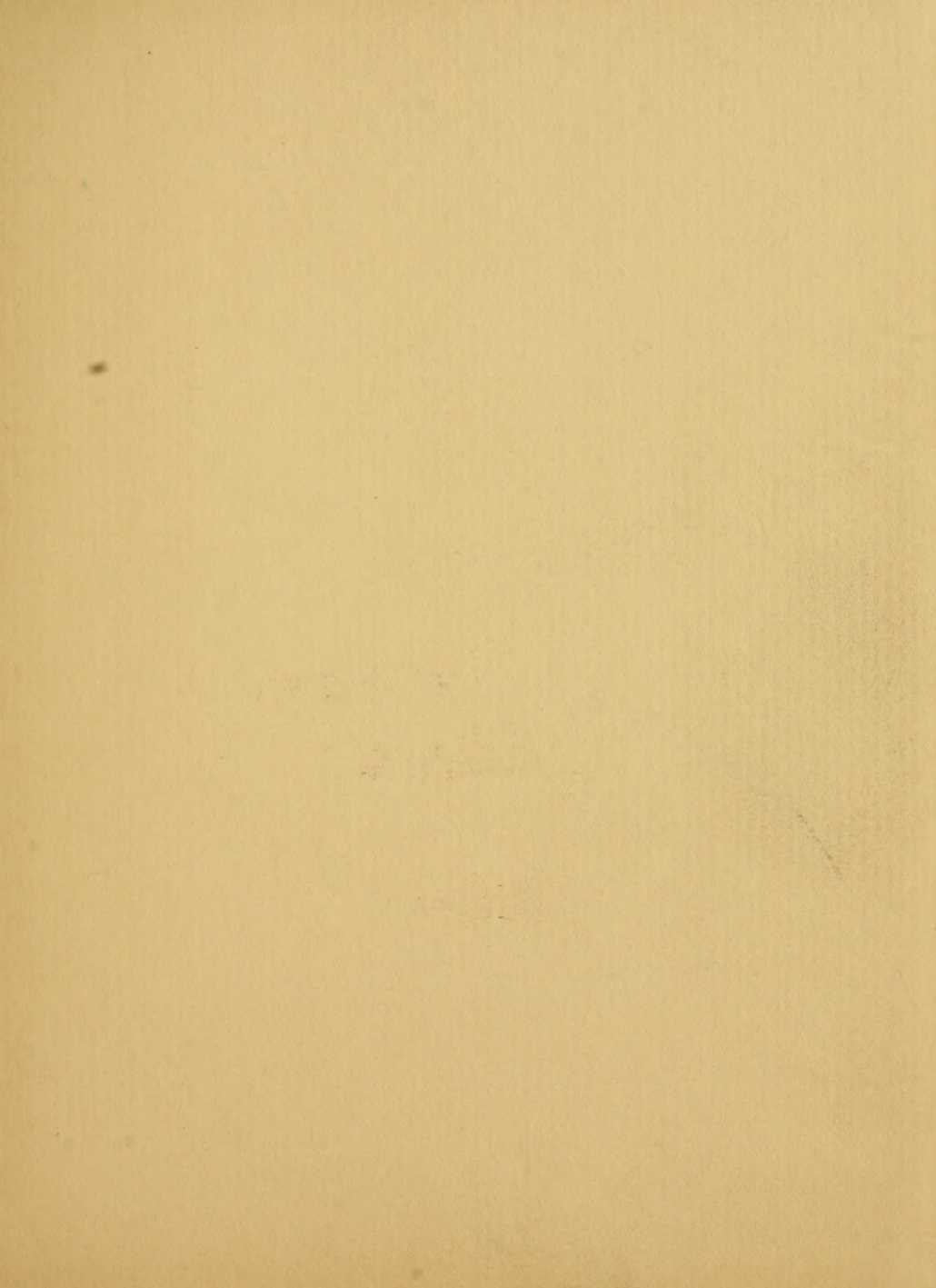


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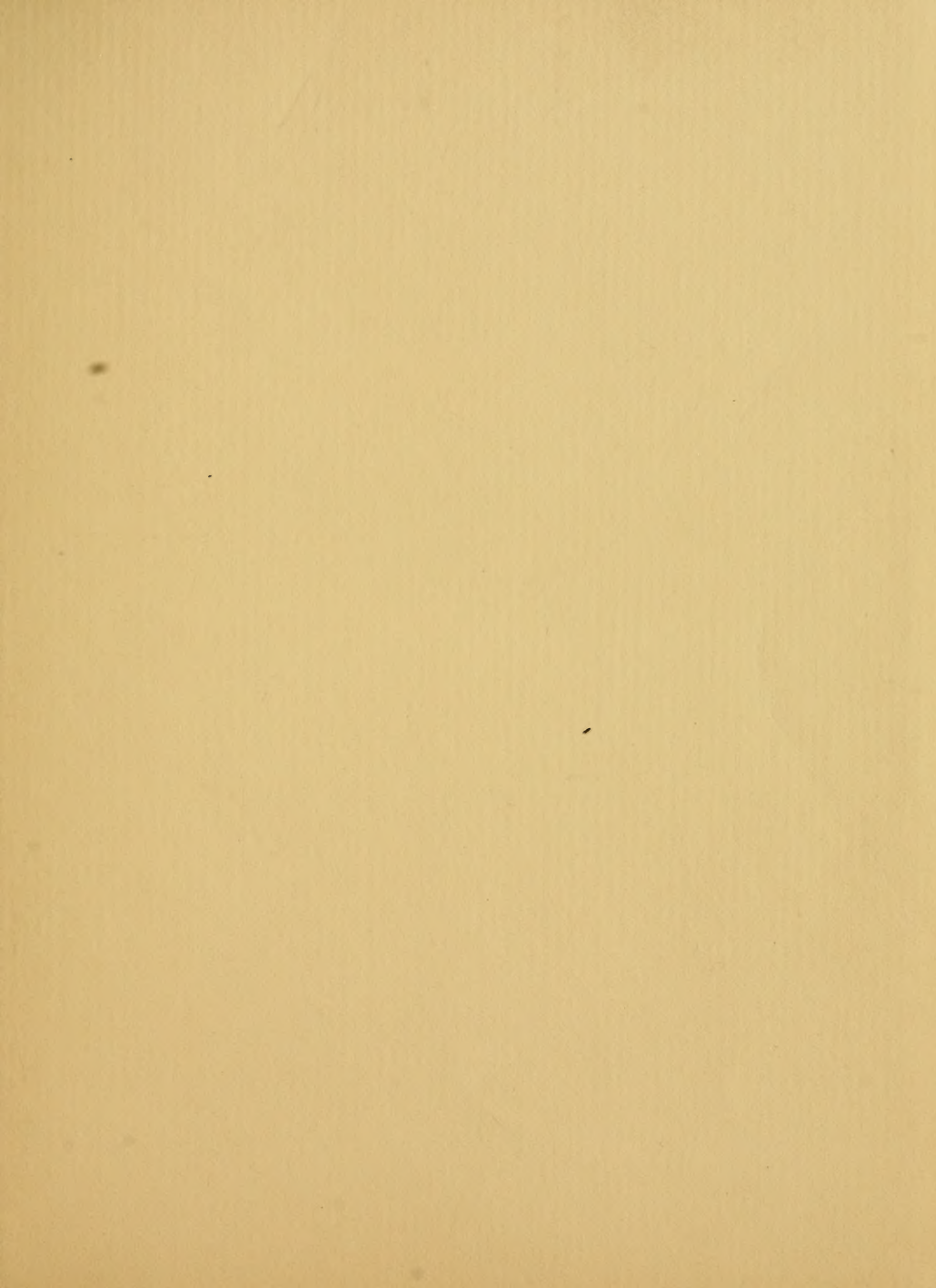
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ENGLISH WALNUTS



WHAT YOU NEED TO KNOW
ABOUT PLANTING, CULTIVA-
TING AND HARVESTING THIS
MOST DELICIOUS OF NUTS



(Compiled by WALTER FOX ALLEN)

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NO. 1

Foreword.

REALIZING the tremendous interest that is now being directed by owners of country estates everywhere to the culture of the Persian or English Walnut, I have compiled this little book with the idea of supplying the instruction needed on the planting, cultivation and harvesting of this most delicious of all nuts.

I have gathered the material herein presented from a large number of trustworthy sources, using only such portions of each as would seem to be of prime importance to the intending grower.

I am indebted to the United States Department of Agriculture and to numerous cultivators of the nut in all sections of the country.

I have aimed at accuracy and brevity and hope the following pages will furnish just that practical information which I have felt has long been desired.

THE COMPILER.



English Walnuts.



VIEWED as a comparatively new industry, the culture of the Persian or English Walnut is making remarkable strides in this country. Owners of farms and suburban estates everywhere are becoming interested in the raising of this delicious article of food, thousands of trees being set out every year.

There are two important reasons for the rapidly growing enthusiasm that is being manifested toward the English Walnut: First, its exceptional value as a food property is becoming widely recognized, one pound of walnut meat being equal in nutriment to eight pounds of

steak. Secondly, its superior worth as an ornamental shade tree is admitted by everyone who knows the first thing about trees. For this purpose there is nothing more beautiful. With their wide-spreading branches and dark-green foliage, they are a delight to the eye. Unlike the leaves of some of our shade trees, those of this variety do not drop during the Summer but adhere until late in the Fall, thus making an unusually clean tree for lawn or garden. In addition to all this, the walnut is particularly free from scale and other pests.

Up to the present time, the English Walnut has been more largely in demand as a shade tree than as a commercial proposition; in fact, so little attention has been given to the nuts themselves that there are, comparatively speaking, few large producing orchards in the United States, the greater portion of the total yield of walnuts being procured from scattered field and roadside trees. It is a little difficult to understand why they should have been so neglected when



SIX YEAR OLD BEARING ENGLISH WALNUT TREE



there are records of single trees bearing as much as 800 pounds of nuts in one year.

In 1895 this country produced about 4,000,000 pounds, and more than 16,000,000 pounds of English Walnuts in 1907, with a proportionate annual increase each year to the present. But, when it is known that the United States is consuming yearly about 50,000,000 pounds of nuts, with the demand constantly increasing, thereby necessitating the importation annually of something more than 25,000,000 pounds, the wonderful possibilities of the industry in this country, from a purely business view point, will readily be appreciated. And of course the market price of the walnut is keeping step with the consumption, having advanced from 15 to 20 cents a pound in the past few years.

In California the nut industry is becoming a formidable rival of the orange; in fact, there are more dollars worth of nuts (all varieties) shipped from the state now per

**A Rival of
the Orange**

year than oranges. One grower is shipping \$136,000 worth of English Walnuts a year while another man, with an orchard just beginning to bear, is getting about \$200 an acre for his crop.

No standard estimate can at present be placed on the yield per acre of orchards in full bearing, but the growers are confident that they will soon be deriving from \$800 to \$1600 per acre, this figure being based on the number of individual trees which are already producing from \$90 to \$120 a year. The success with the nut in California can be duplicated in the East providing certain hardy varieties are planted; and in the few instances where orchards have been started in the East, great things have already been done and still greater are expected in the next few years.

But where did this walnut originate?
What is its history? Juglans
Origin of Regia (nut of the gods) Persian
the English Walnut, called also Madeira
Walnut Nut and English Walnut, is a
native of Western, Central and probably

Eastern Asia, the home of the peach and the apricot. It was known to the Greeks, who introduced it from Persia into Europe at an early day, as "Persicon" or "Persian" nut and "Basilicon" or "Royal" nut. Carried from Greece to Rome, it became "Juglans" (name derived from Jovis and glans, an acorn; literally "Jupiter's Acorn", or "the Nut of the Gods"). From Rome it was distributed throughout Continental Europe, and according to Loudon, it reached England prior to 1562. In England it is generally known as the walnut, a term of Anglo-Saxon derivation signifying "foreign nut". It has been called Madeira Nut, presumably because the fruit was formerly imported into England from the Madeira Islands, where it is yet grown to some extent. In America it has commonly been known as English Walnut to distinguish it from our native species. From the fact that of all the names applied to this nut "Persian" seems to have been the first in common use, and that it indicates approximately the home of the species, the name "Persian Walnut" is regarded as most

suitable, but inasmuch as “English Walnut” is better known here, we shall use that name in this treatise.

As a material for the manufacture of gunstocks and furniture the timber of the nut was long in great demand throughout Europe and high prices were paid for it. Early in the last century as much as \$3,000 was paid for a single large tree for the making of gunstocks.

Everything depends upon the planting and cultivation of English Walnuts as indeed it does of all other fruits from which the very best results are desired. The following general rules should be thoroughly mastered.

**Planting and
Cultivation**

PLANT ENGLISH WALNUT TREES:

On any well-drained land where the sub-soil moisture is not more than ten or twelve feet from the surface. Wherever Oaks, Black Walnuts or other tap-root nut trees will grow. Forty to sixty feet apart.

In holes eighteen inches in diameter
and thirty inches deep.

Two inches deeper than the earth
mark showing on the tree.

AND REMEMBER:

That the trees need plenty of good,
rich soil about their roots.

That the trees should be inclined
slightly toward prevailing winds.

That the trees should not be cut
back.

That the ground cannot be packed
too hard around the roots and the
tree.

That the trees should be mulched in
the Fall.

That the ground should be kept cul-
tivated around the trees during
the Spring and Summer.

That English Walnut trees should be
transplanted while young, as they
will often double in size the year
the tap-root reaches the sub-soil
moisture (that is, the moist earth).

That tap-root trees are the easiest of all to transplant if the work is done while the trees are young and small.

That trees sometimes bear the third year after transplanting three-year-old trees where the sub-soil moisture is within six or eight feet of the surface.

That the age of bearing depends largely on the distance the tap-root has to grow to reach the sub-soil moisture.

The growth of the English Walnut is different from that of most fruit trees. The small trees grow about six inches the first year, tap-root the same; the **Peculiarities of Growth** second year they grow about twelve inches, tap-root the same; the third year they grow about eighteen inches, tap-root nearly as much. For the first three years the tap-root seems to gain most of the nourishment, and at the end of the third year, or about that time, the tree itself starts its real growth. After the tap-root reaches

the sub-soil moisture, the tree often grows as much in one year as it has in the preceding three or four. If the trees are transplanted previous to the time that the tap-root reaches this moisture and before the tree starts its rapid growth, very few young trees are lost in the process of transplanting.

For orchard planting the trees should be placed from forty to sixty feet apart and by staggering the rows a greater distance is gained between individual trees. Any other small fruits **Orchard** may be planted in the orchard **Planting** between the walnut trees or any cultivated crop can be raised satisfactorily on the same land, many orchardists gaining triple use of the soil in this way. Besides, the cultivation of the earth in proximity to the walnuts proves of great benefit to the trees. Before trees are planted the tap-root should be trimmed or cut back and most if not all the lateral branches trimmed from the tree. The tree itself should not be cut back as is customary with other fruit trees, but by

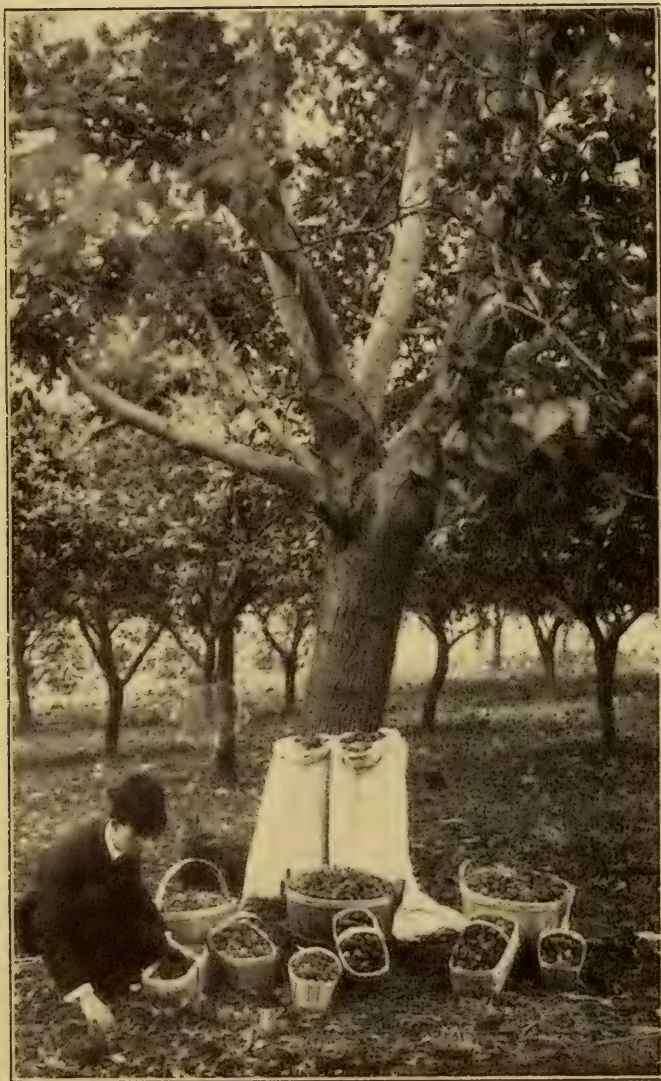
leaving the terminal bud intact, a much better shaped tree is developed. It is not necessary to prune English Walnut trees except in cases where some of the lower branches interfere with cultivation.

Cultivation in the North should be stopped about the first of August, thus halting the growth of the trees and giving them a chance to harden their wood for Winter. This is a good plan to follow in the cultivation of nearly all the smaller fruit trees.

When planting on the lawn for ornamental purposes a ring from two to three feet in diameter should be cultivated about the base of the tree.

The tender varieties that have been used in Southern California must not be experimented with in the North, as they bloom too early and are almost certain to be caught by the frost. These varieties have been tried in Northern California without success, and the venture is quite likely to be disastrous in any but the warmest climates.

**Selection
of Varieties**



MR. E. C. POMEROY, GATHERING ENGLISH WALNUTS
ON HIS FARM IN LOCKPORT, N. Y.



The uncertainty of a crop is often due to the very early blooming of the kinds planted. These start to grow at the first warm spell in the latter part of the Winter or at the first blush of Spring, and almost invariably become victims of frost and consequently produce no fruit.

Planting in the Northwest and the East until recently has been limited to an extremely narrow area. There was need of a variety possessing strong, distinct characteristics, hardy, late to start growth, and with the pistillate and staminate blossoms maturing at the same time and bearing a nut of good quality and flavor with a full rich meat. This variety has now been found, as will later be shown.

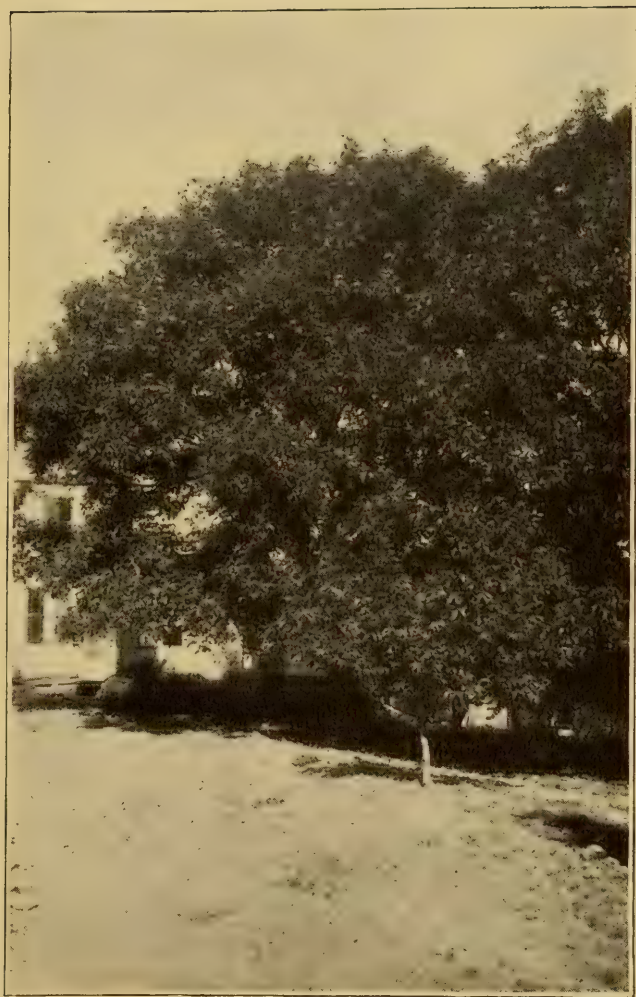
English Walnuts grown in the North command from three to five cents more a pound than the other nuts in the markets, as the meat is plumper and the flavor better. Most fruit is at its best at the Northern limit of its range.

One experienced grower, in reference to transplanting has said: "I have transplanted all the way from a year to six and

the trees have grown and done well, but so far as my experience goes, I prefer to move them at three years of age or about that time. The best trees I have were transplanted at this age."

**Fall or Spring
Planting?** The following extract on tree planting in general, pertaining to all kinds of trees, is contributed by O. K. White of the Michigan Experiment Station:

"The advisability of Fall or Spring planting depends upon several conditions. Fall planting has the advantage over Spring planting in that the trees become firmly established in the soil before Winter sets in, and are able to start growth in the Spring before the ground can be marked and put in condition for planting. This is important because the trees get a good growth in the early part of the season before the Summer droughts occur. On the other hand there is more or less danger from Winter injury during a severe season or from the drying out of the trees if



THIRTY YEAR OLD PARENT ENGLISH WALNUT TREES IN
BACKGROUND, YOUNG BEARING TREE IN FRONT



the Winter is long and dry. Fall planting is much more successful with the hardy apples and pears than it is with the tender plums, cherries and peaches.

“The convenience of the season will determine in a majority of cases whether or not the planting shall be done in the Fall or Spring. Very often the rush of the Spring work induces the grower to hurry his planting, or to do it carelessly; and as a result a poor start is secured, with crooked rows. Others have large crops to harvest in the Fall and would find it more convenient to do the planting in the Spring. If there is any doubt as to the best time to plant, let it be in the Spring.”

We now come to the subject of fertilization. Up to the time when the young trees come into bearing, cultivation and fertilization will **Fertilizing** help them enormously, the cultivation keeping the soil in condition to hold the moisture of the tree. In

fertilizing, a mulch of stable manure in the Fall is considered by most growers to be the best, but the following preparation is thought to be exceptionally good for all young orchards:

Dried blood, 1,000 pounds; bone meal, 550 pounds; sulphate of potash, 350 pounds. Total, 2,000 pounds. This should be applied close up and about the tree, extending out each year in a circle somewhat beyond the spread of the branches.

This provides a quickly available plant food, rich in nitrogen and especially recommended for rapid growth.

After the tap-root reaches the sub-soil moisture it is well able to take care of the tree; and both cultivation and fertilization may then be stopped. In fact, by this time practically no further care is needed in the nut orchard with the exception of that required at the harvesting time, and this is a pleasant and easy occupation, especially in the Northern and Eastern states where the frost opens

the shuck and the nuts drop free upon the ground where they may be picked up and put into sacks of 110 to 120 pounds each, ready for the market.

Just before the first frost it is a very good idea to remove all leaves from the ground so that when the nuts fall they can be readily seen and gathered. An excellent method of accomplishing this is by means of a horse and rake. The nuts may be left on the ground to dry or may be removed to any convenient place for that purpose.

There are three distinct kinds of English Walnuts—hard-shell, soft-shell and paper-shell, the soft-shell being the best. Each of these three is divided into a number of varieties, the names of some of the more popular ones being the Barthere, Chaberte, Cluster, Drew, Ford, Franquette, Gant or Bijou, Grand Noblesse, Lanfray, Mammoth, Mayette, Wiltz Mayette, Mesange, Meylan, Mission, Parisienne, Poorman, Proepar-

**The
Different
Kinds**

turiens, Santa Barbara, Pomeroy, Sero-
tina, Sexton, Vourey, Concord, Chase and
the Eureka.

The question of the best varieties for
planting in the North as well as in the
South is somewhat open to discussion,
due largely to a lack of sufficient infor-
mation in regard to some of the more
promising kinds. There is but little
question that the best proven variety for
the Northwest is the Franquette and for
the East and Northeast, the Pomeroy.
Both of these are good producers bearing
a fine nut, well filled with a white meat
of excellent flavor, and of good shape and
commanding the highest market prices.
The two varieties are also very late in
starting in the Spring making them safe
against the late frosts. Their pistillate
and staminate blossoms mature at the
same time.

The white-meated nut is far superior
to any other. The browning or staining
is caused by the extremely dry heat and
sun in the far South. In the North or



ENGLISH WALNUTS BEAR IN CLUSTERS OF TWO TO FIVE



where the tree has an abundant thick foliage the meat is invariably whiter.

The Mission Nut was introduced by the priests of Los Angeles and is the pioneer Persian Walnut of California. Most of the bearing orchards of the state are composed of seed-ling trees of this type. The nut is medium-sized with a hard shell of ordinary thickness. It succeeds admirably in a few favored districts (of Southern California) but fails in productiveness farther North. Its most prominent faults are—early blooming, in consequence of which it is often caught by the late frosts; the irregular and unequal blooming of its pistillate and staminate blossoms, and the consequent failure of the former to be fertilized and to develop nuts; and lateness in ripening its wood in the Fall and consequent liability to injury by frost at that time.

The Santa Barbara English Walnut (soft-shell) variety is about ten days later than the Mission in starting growth and

in blooming in the Spring. It fruits from four to six years from seed and usually produces a full crop every year. **The Santa Barbara Nut** It is not as strong a grower as the Mission and more trees can be grown to the acre. The shells are thin and easily broken, therefore the nuts are sometimes damaged in long shipment. The kernel is white and of very fine quality.

The Pomeroy variety was started in a most peculiar and interesting way. The late Norman Pomeroy of Lockport, New York, made the discovery quite by accident. When he was in Philadelphia in 1876 visiting the Centennial Exposition, he awoke one morning to be greeted by the leaves of a gorgeous tree, which just touched his window and through which the sun shone brightly. He soon was examining a magnificent English Walnut tree. On the ground directly under he found the nuts, which had fallen during the night. Their flavor was more delicious and the meat fuller than any he had ever before tasted.

The shell was unusually thin and Mr. Pomeroy was astonished, for he never believed the English Walnut grew in the East.

Knowing the varieties grown in California could not be raised in the East or North, he questioned his landlord and found that this particular tree had been brought from Northern Europe. Mr. Pomeroy determined at once that possibly this variety would be hardy enough for cultivation in New York State. He procured some of the nuts and put them in his satchel which he entrusted to a neighbor who was about to start home. The neighbor reached home all right and so did the nuts—but—the neighbor's children found the rare delicacies and ate all but seven. They would doubtless have eaten these too but fortunately they had slipped into the lining of the satchel where Mr. Pomeroy found them on his return to Lockport. These seven nuts, which had so narrow an escape from oblivion, are now seven beautiful English Walnut trees, sixty or more feet high and

the progenitors of the Pomeroy orchards, all of which are now producing nuts like the originals—a very fine quality.

English Walnuts to be used for making pickles, catsup, oil and other culinary products, are gathered when the fruit is about half mature or when the shell is soft enough to yield to the influence of cooking. The proper stage can be determined by piercing the nut with a needle, a certain degree of hardness being desired. The nut is often utilized for olive oil in some parts of Europe. It takes one hundred pounds of nuts to make eighteen pounds of oil.

In England the nuts are preserved fresh for the table where they are served with wine. They are buried deep in dry soil or sand so as not to be reached by frost, the sun's rays or rain; or by placing them in dry cellars and covering with straw. Others seal them up in tin cans filled with sand.

As an illustration of the hardiness of the English Walnut, there is a tree at Red Hill, Virginia, which was brought from Edinburgh, Scotland, when six months old, planted in New York, where it remained three years, then removed to Staunton, Virginia, and after two years taken to Red Hill. In consequence of so many changes, the tree at first died back, but is now thrifty—twenty feet high; trunk, eight inches in diameter at the ground.

**Examples of
Hardiness**

During several severe Winters, the thermometer fell so low that some peach trees and grape vines growing near English Walnuts on the Pomeroy farm near Lockport, N. Y. were killed, while the nut trees were not in the least injured.



The English Walnut at its Best.

A SMOOTH, soft-shelled nut.
Meat full, with sweet, hickory-nut
flavor.

Nuts fall clean and free from outside
shuck.

Frosts harvest the nuts—in October.

They are self-pruning.

Require no care after arrival at bearing age.

An alkali sap keeps scales and pests from
the trees.

Blossoms immune from late frosts, as they
start late.

Pistillate and Staminate blossoms mature
at same time in the best varieties, in-
suring perfect fertilization and pro-
ductivity.

Bears more regularly than other nut trees.

Bears heavier crops the older it be-
comes, unlike other fruit trees the size
and quality of whose fruit degenerates
with age.

Interesting Figures about the English Walnut.

IN Spain and Southern France there are trees believed to be more than 300 years old which bear from fifteen to eighteen bushels of nuts each, annually.

In Whittier, California, is a famous tree which has been leased for a term of years at \$500.

Orchards seven and eight years old bring all the way from \$1,000 to \$2,000 per acre and are a fine investment, yielding from 15 to 125 per cent. according to age.

The total cost of producing and harvesting an English Walnut crop is about one and one-half cents a pound.



Kernels of Fact about the English Walnut.

THE United States consumes more than 50,000,000 pounds a year.

The United States imports about 27,000,000 pounds a year.

The price is advancing steadily with the demand.

Besides being profitable, the English Walnut is a clean, highly ornamental shade tree.

The leaves remain on the tree until late in the Fall, not littering up the ground during the Summer.

English Walnuts are not only a rare table delicacy, but may be utilized for catsup, pickles and oil.

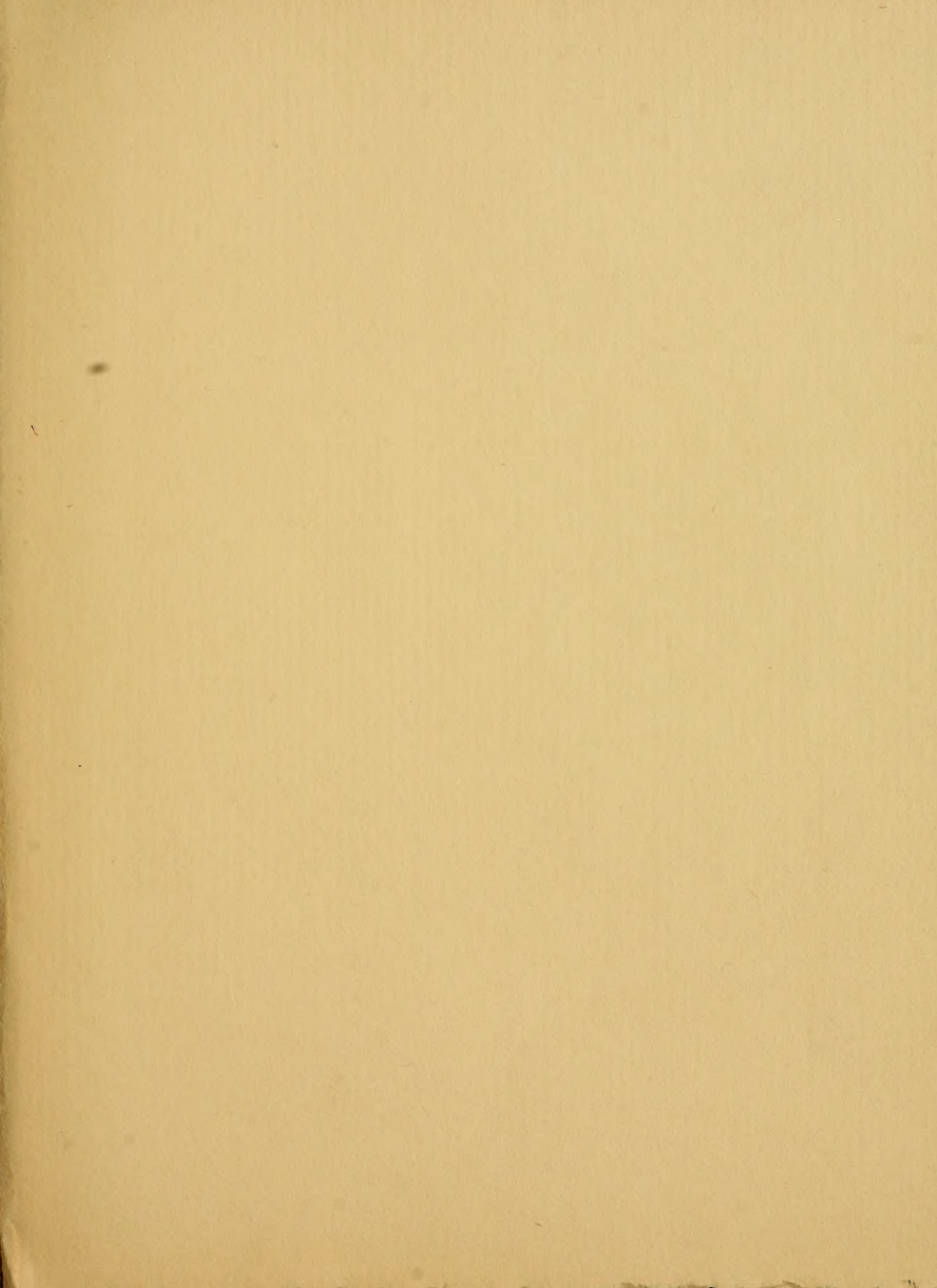
One pound of walnut meat equals eight pounds of steak in nutriment—and is a far more healthful food.

What Luther Burbank has to say:

“**W**HEN you plant another tree, why not plant the English Walnut? Then, besides sentiment, shade and leaves, you may have a perennial supply of nuts, the improved kind of which furnish the most delicious, nutritious and healthful food which has ever been known. The consumption of nuts is probably increasing among all civilized nations today faster than that of any other food; and we should keep up with this growing demand and make it still more rapid by producing nuts of uniform good quality, with a consequent increase in the health and a permanent increase in the wealth of ourselves and neighbors.”—*From Address at Santa Rosa, California, in the Fall of 1905.*



PUBLISHED BY
WALTER FOX ALLEN
LAWRENCEVILLE, N. J.



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